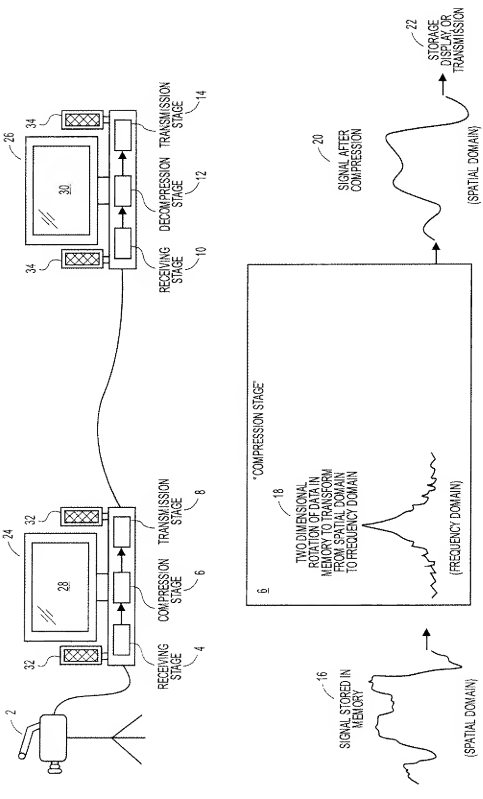
2
24
28
32
32
RECEIVING STAGE
4
COMPRESSION STAGE
6
TRANSMISSION STAGE
8
26
30
34
34
RECEIVING STAGE
10
DECOMPRESSION STAGE
12
TRANSMISSION STAGE
14
16
SIGNAL STORED IN MEMORY
(SPATIAL DOMAIN)
6
"COMPRESSION STAGE"
18
TWO DIMENSIONAL ROTATION OF DATA MEMORY TRANSFORM FROM SPATIAL DOMAIN TO FREQUENCY DOMAIN
(FREQUENCY DOMAIN)
20
SIGNAL AFTER COMPRESSION
(SPATIAL DOMAIN)
22
STORAGE DISPLAY OR TRANSMISSION

FIG. 1

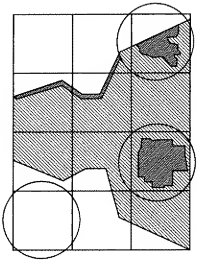

FIG. 2

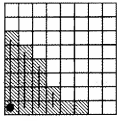

FIG. 3E

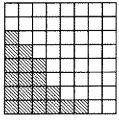

FIG. 3D

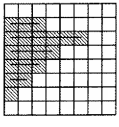

FIG. 3C

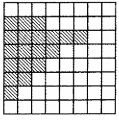

FIG. 3B

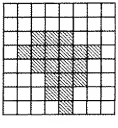

FIG. 3A

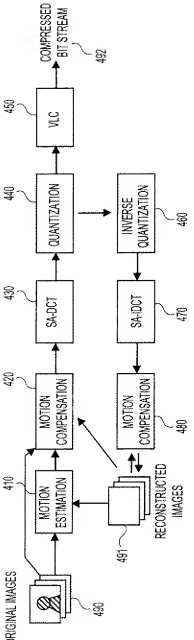
ORIGINAL IMAGES
480
MOTION ESTIMATION
410
MOTION COMPENSATION
420
SA-DCT
430
QUANTIZATION
440
VLC
450
COMPRESSED BIT STREAM
492
RECONSTRUCTED IMAGES
491
MOTION COMPENSATION
460
SA-IDCT
470
INVERSE QUANTIZATION
460

FIG. 4

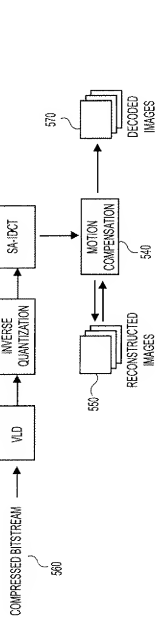
COMPRESSED BITSTREAM
560
VLD
510
INVERSE QUANTIZATION
520
SA-IDCT
470
RECONSTRUCTED IMAGES
550
MOTION COMPENSATION
540
DECODED IMAGES
570

FIG. 5

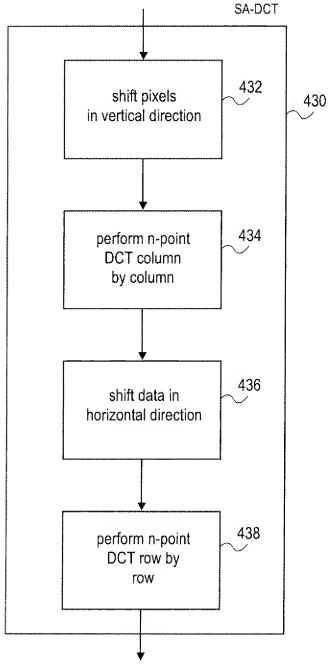
SA-DCT
shift pixels in vertical direction
432
430
perform n-point DCT column by column
434
shift data in horizontal direction
436
perform n-point DCT row by row
438

FIG. 6

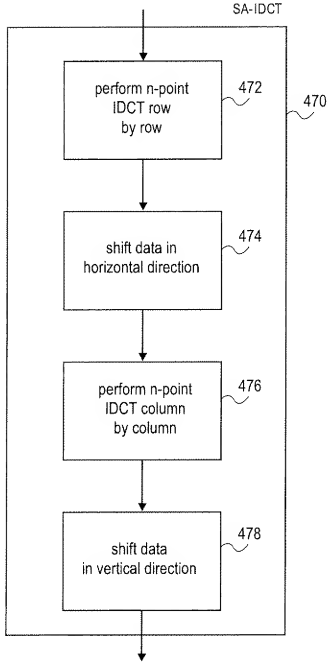
SA-IDCT
perform n-point IDCT row by row
472
470
shift data in horizontal direction
474
perform n-point IDCT column by column
476
shift data in vertical direction
478

FIG. 7

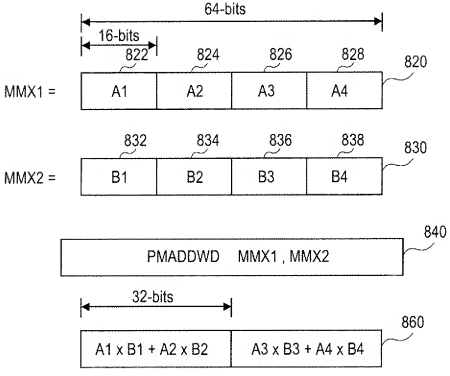
64-bits
16-bits
822
824
826
828
820
MMX1 =
A1
A2
A3
A4
832
834
836
838
830
MMX2 =
B1
B2
B3
B4
840
PMADDWD MMX1 , MMX2
32-bits
860
A1 x B1 + A2 x B2
A3 x B3 + A4 x B4

FIG. 8

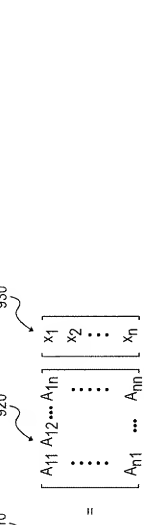

FIG. 9A

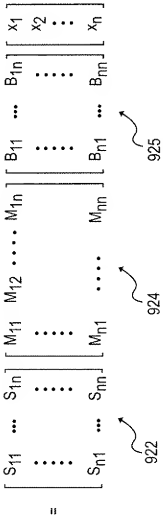

FIG. 9B